

High-Level Heterogeneous and Hierarchical Parallel Systems (HLPGPU 2014)

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High-Level Heterogeneous and Hierarchical Parallel Systems (HLPGPU) aims to bring together researchers and practitioners to present new results and ongoing work on those aspects of high-level programming relevant, or specific to GPGPUs and new architectures. The 2014 HLPGPU symposium was an event co-located with the HiPEAC conference in Vienna, Austria. HLPGPU is targeted at high-level parallel techniques, including programming models, libraries and languages, algorithmic skeletons, refactoring tools and techniques for parallel patterns, tools and systems to aid parallel programming, heterogeneous computing, timing analysis and statistical performance models. The invited talk was given by Professor Kevin Hammond from the University of St Andrews on *Paraphrase: Parallel Patterns for Adaptive Heterogeneous Multicore Systems*. 11 papers were submitted to the symposium, of which 10 were selected for presentation. After the symposium, authors were given a chance to improve their papers and submit to this special issue of IJPP. All papers submitted to the IJPP special issue went through a strict reviewing process. This special issue of IJPP presents the three accepted revised papers.

- **Steal Locally, Share Globally: A Strategy for Multiprogramming in the Many-core Era** by Ashkan Tousimojarad and Wim Vanderbauwhede.
- **Comprehensive Evaluation of a New GPU-based Approach to the Shortest Path Problem** by Hector Ortega-Arranz, Yuri Torres, Arturo Gonzalez-Escribano and Diego R. Llanos.

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- **TuCCompi: A Multi-layer Model for Distributed Heterogeneous Computing with Tuning Capabilities** by Hector Ortega-Arranz, Yuri Torres, Arturo Gonzalez-Escribano and Diego R. Llanos.

We thank all the speakers, the authors, the rest of the participants, the Program Committee, and the IJPP SI editors for contributing to the success of HLPGPU 2014.

HLPGPU PC Members

- Christopher Brown (University of St Andrews) (PC Chair)
- Francisco J. Cazorla (Barcelona Supercomputing Center)
- Murray Cole (University of Edinburgh)
- Jose Gracia (HLRS, Stuttgart)
- Clemens Grelck (Universiteit van Amsterdam)
- Gaetan Hains (Universite Paris-Est Creteil)
- Kevin Hammond (University of St Andrews)
- Herbert Kuchen (University Muenster)
- Bjorn Lisper (University of Malarden)
- Sven-Bodo Scholz (University of Heriot-Watt)

Other Reviewers

- Marco Danelutto (University of Pisa)
- Vladimir Janjic (University of St Andrews)
- Holger Schoener (SCCH, Austria)
- Arturo Gonzalez Escribano (Universidad de Valladolid)
- Colin Glass (HLRS, Stuttgart)